

# SPACE INDUSTRY

The Queensland Government released the Queensland Aerospace 10-Year Roadmap and Action Plan in June 2018, setting out their vision for the future of the state's aerospace industry. Development of space technologies is a key part of this plan, with Brisbane home to much of the state's space capabilities.

*Brisbane's space industry ready for take-off*



Space is a logical progression for Brisbane's nation-leading aerospace industry. We have a highly skilled workforce and a strong research base in both the civil and military sectors.

Since the establishment of Boeing's Australian headquarters in Brisbane in 1998, we've been at the forefront of building capability, adding considerable value to the national research sector and the economy.

## FOUNDATIONS FOR A SUCCESSFUL SPACE INDUSTRY

- We've established the **Queensland Space Industry Reference Group** of prime contractors, SMEs and research institutions to help guide the industry's development. This group is chaired by the Queensland Government's strategic advisor to the air sector, Air Vice-Marshal (ret) Neil Hart AM. This group works alongside a whole-of-government working group to ensure a coordinated approach between industry, government and the research sector.
- We've commissioned a technical analysis to identify and assess priority space infrastructure developments in the state.
- A Queensland representative currently chairs the **ANZLIC Spatial Information Council**, the peak government body in Australia and New Zealand responsible for spatial information.

### OUR STRENGTHS



#### SPACE-BASED SENSING

Earth observation  
Data analysis and exploitation



#### SPACE-BASED SERVICES

Communications  
Position, navigation and timing



#### SPACE SYSTEMS SUPPORT

Launch and recovery  
Monitoring and control

#### SPACE SYSTEMS DESIGN & MANUFACTURE

Vehicles and orbital propulsion  
Payloads  
Ground stations and equipment  
Autonomous systems, artificial intelligence and machine learning



# World-class research

Brisbane-based institutions are conducting world-class research that feeds into the space sector. This includes:

## A WORLD-CLASS INDUSTRY BASE

We have a world-class industry base in Brisbane, with expertise in areas such as aerospace technologies advancement, propulsion systems, unmanned systems development, advanced intelligent surveillance, data processing, advanced manufacturing, thermal treatment, niche machining and composites development.

Brisbane also has many companies contracting to national and international defence forces. This means our industry is accustomed to producing products and services of the highest standard and working in a tightly regulated environment.

Brisbane also has the opportunity to draw on its strengths in sectors like mining and agriculture, and connect them to the space sector. There is potential to tap into new markets such as asteroid mining and precision agriculture using the existing knowledge base in conjunction with emerging space research and technologies.

## UNIVERSITY OF QUEENSLAND

>> **Centre for Advanced Materials Processing and Manufacturing** (AMPAM) has significant expertise in materials engineering and manufacturing activities

>> **Centre for Hypersonics** is a world leader in the development of hypersonic technology and has been conducting targeted research in this area for more than 20 years

>> Hosts the **Terrestrial Ecosystem Research Network** (TERN), which has recently collaborated with NASA to study global climate

>> Has an X3 expansion tube capable of studying superorbital gas dynamic flows (i.e. the properties and behaviour of fuels in space propulsion systems)

## QUT

>> The former host of the **Australian Research Centre for Aerospace Automation** (ARCAA). ARCAA played an integral role in building Australia's unmanned aircraft system industry over a 10-year period and the work of ARCAA is now captured under QUT's robotics and autonomous systems discipline.

>> Home to the Asia Pacific-leading **Australian Centre for Robotic Vision**

>> **Institute for Future Environments** is developing new technologies and methods for collecting and analysing big data through its IntelliSensing program

>> Has the country's only low-humidity electro-manufacturing dry rooms that support production of commercial-grade lithium-ion batteries

## CSIRO

>> CSIRO's Brisbane facility includes the **Queensland Centre for Advanced Technologies** (QCAT). This is Australia's largest integrated research and development precinct for the resources and associated advanced technology industries. Research areas include autonomous systems, smart mining and advanced aeronautical engineering.

## GRIFFITH UNIVERSITY

>> Specialises in artificial intelligence, computer image processing and robotics through its **Institute for Integrated and Intelligent Systems** (IIS)

>> IIS's quest to incorporate human behaviours into intelligence devices has secured consistent global recognition and is an international leader in the field

## PRIME CONTRACTORS WITH A QLD PRESENCE

|                            |                  |
|----------------------------|------------------|
| Airbus                     | Northrop Grumman |
| BAE Systems                | Nova Systems     |
| Boeing Defence Australia   | Qantas           |
| Elbit Systems of Australia | Raytheon         |
| DigitalGlobe               | Virgin Australia |
| Harris Corporation         |                  |

## SMALL AND MEDIUM ENTERPRISES

|                            |                          |                             |
|----------------------------|--------------------------|-----------------------------|
| Absolute Data Group        | Heat Treatment Australia | Lavender Composites         |
| Black Sky Aerospace        | Hypersonix               | Ozius                       |
| Crystalaid Manufacture     | Imagus                   | Products for Industry (PFI) |
| EM Solutions               | ImmersaView              | QinetiQ                     |
| Esri Australia             | Insitu Pacific           | Teakle Composites           |
| Ferra Engineering          | Intellidesign            | Teledyne Australia          |
| Gilmour Space Technologies | L3 Micreo                |                             |